

## CLAIMS

I claim:

1. A composite refractory article consisting of
  - a) a refractory core composed of ceramic materials, and
  - b) a means for conducting an electric current on the surface of said refractory core.
2. The composite refractory article in claim 1 wherein said refractory core is essentially composed of ceramic oxides.
3. The composite refractory article in claim 1 wherein said refractory core is essentially composed of metal carbides.
4. The composite refractory article in claim 1 wherein said refractory core is essentially composed of a combination of ceramic oxides, metal carbides and elemental carbon.
5. The composite refractory article in claim 4 wherein said elemental carbon is in the form of graphite or carbon black.
6. The composite refractory article in claim 1 wherein the said means of conducting an electric current on the surface of the core is an electrically conductive coating.
7. The composite refractory article in claim 6 wherein the said electrically conductive coating is essentially composed of elemental carbon.
8. The composite refractory article in claim 7 wherein the said elemental carbon is in the form of graphite or carbon black.
9. The composite refractory article in claim 6 wherein the said electrically conductive coating is bonded to the said refractory core at temperatures less than 950 degrees Fahrenheit.
10. The composite refractory article in claim 6 wherein the said electrically conductive coating is capable of making an electrical contact with a separate electrically charged element in the system.

  

11. A composite refractory stopper used to control the flow of molten metal consisting of
  - a) a refractory core composed of ceramic materials, and

- b) a means for conducting an electric current on the surface of said refractory core.
- 12. The composite refractory stopper in claim 11 wherein said refractory core is essentially composed of ceramic oxides.
- 13. The composite refractory stopper in claim 11 wherein said refractory core is essentially composed of metal carbides.
- 14. The composite refractory stopper in claim 11 wherein said refractory core is essentially composed of a combination of ceramic oxides, metal carbides and elemental carbon.
- 15. The composite refractory stopper in claim 14 wherein said elemental carbon is in the form of graphite or carbon black.
- 16. The composite refractory stopper in claim 11 wherein the said means of conducting an electric current on the surface of the core is an electrically conductive coating.
- 17. The composite refractory stopper in claim 16 wherein the said electrically conductive coating is essentially composed of elemental carbon.
- 18. The composite refractory stopper in claim 17 wherein the said elemental carbon is in the form of graphite or carbon black.
- 19. The composite refractory stopper in claim 16 wherein the said electrically conductive coating is bonded to the said refractory core at temperatures less than 950 degrees Fahrenheit.
- 20. The composite refractory stopper in claim 16 wherein the said electrically conductive coating is capable of making an electrical contact with a separate electrically charged element in the system.